



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,398	10/03/2001	Joachim Hagenauer	112740-218	8986

29177 7590 02/22/2007
BELL, BOYD & LLOYD, LLP
P.O. BOX 1135
CHICAGO, IL 60690

EXAMINER

ROBERTS, BRIAN S

ART UNIT	PAPER NUMBER
----------	--------------

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

10

Office Action Summary	Application No. 09/868,398	Applicant(s) HAGENAUER ET AL.	
	Examiner Brian Roberts	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-16, 19 and 20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-16, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

- The RCE filed on 1/23/2007 is acknowledged.
- Claims 1-9 and 17-18 have been cancelled.
- Claim 10 is amended.
- Claims 19 and 20 have been added.
- Claims 10-16 and 19-20 remain pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10-16, and 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- In reference to claims 10 and 19

Claims 10 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. In lines 8-9 of claim 10 and lines 5-6 of claim 19, the claims recite performing channel coding in the frame, independently of the selected particular source-code mode. The claims, however, omit the step of initially selecting a particular source-code mode.

- In reference to claims 11-16 and 20

Claims 11-16 and 20 are rejected as being dependent on rejected claims 10 and 19 respectively.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 10-12 and ^{14-16, 19 and 20}~~14-18~~, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Bruhn (US 6256487).

- In reference to claim 10

In Figure 3a, Bruhn teaches a method of channel and source coding and decoding data structured in frames that includes:

- Selecting a source code mode from a plurality of predefined source code modes (column 6 lines 10-41)
- Determining the source code mode via a mode indicator in a frame (column 6 lines 42-54)
- Performing channel encoding in the frame, independently of the source code mode, on a first portion of the data bits and the mode indicator contained in the frame (column 6 lines 10-41)

Art Unit: 2616

- Performing source coding in the frame, according to the selected particular source code mode, on a second portion of data bits in the frame (column 6 lines 10-41)

- In reference to claim 11

Bruhn teaches selecting the source code mode based "upon the radio propagation characteristics of radio communication channels, and the loading of the system". (column 2 lines 48-54)

- In reference to claim 12

Bruhn teaches a method of "a mode request which informs a transmitter of a particular codec mode desired by a receiver for subsequently transmitted information blocks or frames and/or channel measurement information". (column 4 lines 1-6) (column 6 lines 42-63)

- In reference to claim 14

Bruhn teaches channel decoding the mode indicator with a relatively weak channel code. (column 7 lines 8-11)

- In reference to claim 15

Bruhn teaches channel encoding the mode indicator with a relatively weak channel code independently of the selected source coding mode (column 7 lines 8-11)

- In reference to claim 16

In Figure 4, Bruhn teaches a method where the mode indicator in the frame is determined by the mode information likelihood processor (107) and delivered to the channel decoder (109) to recover the information via the known redundant bits and the known channel coding. (column 7 line 54-65) (column 10 lines 8-27)

- In reference to claim 19

In Figure 3a, Bruhn teaches a method of channel and source coding and decoding data structured in frames that includes:

- Coding apparatus (Figure 3a; Mode Control Processor 48) selecting a source code mode from a plurality of predefined code modes (column 6 lines 10-41) and determining the source code mode via a mode indicator (column 6 lines 42-54)
- A processing apparatus (Figure 3a; Source coder 40,42; Channel coder 44,46) performing channel encoding in the frame, independently of the source code mode, on a first portion of the data bits (column 6 lines 10-41) and the mode indicator contained in the frame (column 7 lines 9-12) and performing source coding in the frame, according to the selected source code mode, on a second portion of data bits in the frame (column 6 lines 10-41)

- In reference to claim 20

In Figure 3a, Bruhn teaches a system and method that includes a processor (Figure 3a; Source coder 40,42; Channel coder 44,46) where redundancy is added to the data frame so that the first portion of the channel-coded data bits act as overhead to allow the decoding of the mode indicator according to the selected coding mode. (column 3 lines 34-55) Bruhn further teaches channel decoding the mode indicator with a relatively weak channel code. (column 7 lines 8-11)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 13, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Bruhn (US 6256487).

- In reference to claim 13

In Figure 3, Bruhn teaches a method of utilizing a convolution code for channel coding the source coded payload data (column 6 lines 10-27) and channel encoding the mode indicator with a relatively weak channel code. (column 7 lines 8-11) Bruhn further teaches that the value of the bits in the mode indicator depends on the convolution and speech coding employed for the data payload.

Bruhn does not explicitly teach utilizing a convolution code for the step of channel coding the mode indicator.

Bruhn teaches utilizing a convolution code to channel code data. (column 6 lines 10-27)

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify method of utilizing a channel code to channel code the mode indicator of Bruhn to include utilizing a convolution code to channel code the mode indication because utilizing convolution coding with a low code rate provides for greater error protection. (column 2 lines 36-44)

Response to Arguments

7. Applicant's arguments filed 1/23/2007 have been fully considered but they are not persuasive.

- In the Remarks on pg. 6 the Amendment, the Applicant contends that Bruhn does not teach "channel-coding in the frame, preformed independently of the selected particular source-code mode, on a first portion of the data bits and the at least one mode bit contained within the frame, and performing source-coding in the frame, according to the selected particular source-code mode, on a second portion of data bits contained in the frame.
- The Examiner respectfully disagrees. As stated in the above rejection, Bruhn teaches channel-coding a first portion of the data bits (column 6 lines 10-41) and channel-coding mode bit utilizing a weak channel within the frame (column 7 lines 9-12), and performing source-coding in the frame according to

the selected particular source-code mode, on a second portion of data bits contained in the frame. (column 6 lines 10-41)


Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Roberts whose telephone number is (571) 272-3095. The examiner can normally be reached on M-F 10:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BSR
02/05/2007


HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600